Solution 23.1 Specific loan

a) Borrowing costs to be capitalised

W1. Interest incurred during construction:
1 900 000 x 25% x 10 / 12
= 395 833

Note:
- Any interest incurred during January 20X5 may not be capitalised because construction had not yet begun.
- Any interest incurred after 30 November 20X5 may not be capitalised because construction is complete.

W2 Interest earned to end of construction:
(1 900 000 – 500 000) x 20% x 5/12 + (1 900 000 – 500 000 – 600 000) x 20% x 4/12
= 170 000

Note:
- Interest earned during construction is the only interest we consider in this calculation.

W3 Interest capitalised:

Interest incurred during construction	395 833
Less investment income earned during construction	(170 000)
Costs capitalised	225 833

b) Depreciation in 20X5

Total cost:

Construction costs	500 000 + 600 000 + 800 000	1 900 000
Borrowing costs capitalised	Part (a)	225 833
Carrying amount		2 125 833

Depreciation:
2 125 833 / 10 years x 1 / 12 months
= 17 715

c) Carrying amount at 31 December 20X5

Cost		2 125 833
Accumulated depreciation	Part (b)	(17 715)
Carrying amount		2 108 118

Solution 23.2 General loan

a) Borrowing costs to be capitalised

Capitalisation rate (weighted average rate of interest):

2 600 000 / 20 000 000
=13 %

Interest to be capitalised

Date	Accumulated expenses: opening bal A C	Expenses incurred during period B C	Cumulative Expenses C = A + B [2] C	Interest capitalised D = C x % x m/12 C	Accumulated expenses: closing bal E = A + B + D[1] C
1 January	0	300 000	300 000	9 750 [3]	300 000
1 April	300 000	200 000	500 000	16 250 [4]	500 000
1 July	500 000	250 000	750 000	16 250 [5]	750 000
1 September	750 000	150 000	900 000	9 750 [6]	900 000
1 October	900 000	200 000	1 100 000	35 750 [7]	1 187 750 [1]
		1 100 000		87 750	

Note the following:

1) *Interest (column D) is only added if the interest is compounded at that date. Since the interest is payable at year-end, the interest incurred is not included in the 'accumulated expenses' closing/ opening balances (i.e. interest is effectively not compounded during the year).*
   The total interest of 87 750 would, however, be included in the accumulated opening balance on 1 January 20X6 since it amounts to a payment that was necessary for the construction of the stadium: 1 100 000 + 35 750 = 1 187 750

2) *Since the expenses are incurred at the beginning of each period (e.g. not evenly during the period), the expenses are not averaged.*

3) *300 000 x 13% x 3/12 = 9 750*

4) *500 000 x 13% x 3/12 = 16 250*

5) *750 000 x 13% x 2/12 = 16 250*

6) *900 000 x 13% x 1/12 = 9 750*

7) *1 100 000 x 13% x 3/12 = 35 750*

Alternative layout: *Interest to be capitalised:*

Payments [1]	Capitalisation rate	Months outstanding	Related interest	Calculation
300 000	13%	12	39 000	300 000 x 13% x 12/12
200 000	13%	9	19 500	200 000 x 13% x 9/12
250 000	13%	6	16 250	250 000 x 13% x 6/12
150 000	13%	4	6 500	150 000 x 13% x 4/12
200 000	13%	3	6 500	200 000 x 13% x 3/12
1 100 000			87 750	

1) Since the interest is payable at year-end, the interest incurred is not included in the 'payments' column. In other words, interest is effectively not compounded during the year.

Solution 23.2 General loan

a) Borrowing costs to be capitalised continued …

Alternative layout: *Interest to be capitalised:*

Average costs:
(300 000 x 12/12) + (200 000 x 9/12) + (250 000 x 6/12) + (150 000 x 4/12) + (200 000 x 3/12)
= 675 000

Interest eligible for capitalisation:
13% x 675 000 = 87 750

b) Depreciation in 20X5

Since the asset is not yet available for use (still under construction) there is no depreciation.

c) Carrying amount at 31 December 20X5

Cost	*1 100 000 + 87 750*	1 187 750
Accumulated depreciation		0
Carrying amount		1 187 750

Solution 23.3 General loan

a) Borrowing costs to be capitalised

Capitalisation rate (weighted average rate of interest):
2 600 000 / 20 000 000
= 13 %

Interest to be capitalised:

Period	Accumulated expenses: opening bal A C	Expenses incurred during period B C	Average cumulative expenses C = A + B/2 (7) C	Interest capitalised D = C x % x m/12 C	Accumulated expenses: closing bal E = A + B + D C
1 Jan – 30 April	0	600 000	300 000 (1)	13 000 (4)	613 000
1 May – 31 Aug	613 000	300 000	763 000 (2)	33 063 (5)	946 063
1 Sept – 31 Dec	946 063	900 000	1 396 063 (3)	60 496 (6)	1 906 559
		1 800 000		106 559	

Notes:
1) 0 + 600 000 / 2 = 300 000
2) 613 000 + 300 000 / 2 = 763 000
3) 946 063 + 900 000 / 2 = 1 396 063
4) 300 000 x 13% x 4/12 = 13 000
5) 763 000 x 13% x 4/12 = 33 063
6) 1 396 063 x 13% x 4/12 = 60 496
7) B is divided by 2 when the expenses are incurred evenly during the period

Alternative layout: *Interest to be capitalised:*

Interest eligible for capitalisation: (average cumulative expenditure x interest rate x period)

January to April	(0 + 600 000/ 2) x 13% x 4/ 12	13 000
May to August	(613 000 (1) + 300 000/ 2) x 13% x 4/ 12	33 063
September to December	(946 063 (2) + 900 000/ 2) x 13% x 4/12	60 496
Total		106 559

Notes:
1) 0 + 600 000 + 13 000 = 613 000
2) 613 000 + 300 000 + 33 063 = 946 063

b) Depreciation in 20X5

Since the asset is not yet available for use (still under construction) there is no depreciation.

c) Carrying amount at 31 December 20X5

Cost	1 800 000 + 106 559	1 906 559
Accumulated depreciation	Part (b)	0
Carrying amount		1 906 559

Solution 23.4 General loan

Journals in 20X5:	**Debit**	**Credit**
Building: cost (asset)	740 000	
Bank/ liability		740 000
Construction costs incurred: 70 000 x 7 + 40 000 x 4 + 90 000 x 1		
This journal would actually be processed separately for each and every payment but is shown here as a cumulative journal for ease		
Interest expense (finance costs)	140 000	
Bank/ liability		140 000
Finance costs incurred: 800 000 x 10% + 400 000 x 15%		
Bank	45 000	
Interest income		45 000
Finance income earned: given		
Building: cost (asset)	98 098	
Interest expense (finance costs)		98 098
Finance costs capitalised: (W1)		
Journals in 20X6:		
Interest expense (finance costs)	140 000	
Bank/ liability		140 000
Finance costs incurred: 800 000 x 10% + 400 000 x 15%		
Bank	92 000	
Interest income		92 000
Finance income earned: given		
Building: cost (asset)	12 523	
Interest expense (finance costs)		12 523
Finance costs capitalised to 31 January 20X6: (W1)		
Depreciation	119 224	
Building: accumulated depreciation		119 224
Depreciation from date asset first became available for use:		
1 February 20X6: (o/bal: 450 000 + 740 000 + 98 098 + 12 523) / 10 years x 11 / 12 (asset available for use from 1 February 20X6)		

Comment:

- There are two loans, both of which are general borrowings and therefore the borrowing costs to be capitalised are based on expenditures incurred multiplied by the weighted average interest rate.
- Since the expenditures are incurred evenly, average expenditures are used.
- Since the borrowings are general, one does not consider interest income in the calculation of the amount to be capitalised.

Solution 23.4 continued …

W1: Borrowing costs to be capitalised
The loans are general loans and therefore the formula is:
'Capitalisation rate x Average expenditure'.

W1.1: Capitalisation rate (weighted average interest rate):

= interest incurred on general borrowings/ borrowings outstanding during the period

$$= \frac{[(C800\ 000 \times 10\% \times 12/12) + (C400\ 000 \times 15\% \times 12/12)]\ \text{total interest}}{(800\ 000 + 400\ 000)\ \text{total borrowings}}$$

= 11.667%

W1.2A: Interest to be capitalised

Period	Accumulated expenses: opening bal A C	Expenses incurred during period B C	Average cumulative expenses C = A + B/2 C	Interest capitalised D = C x % x m/12 C	Accumulated expenses: closing bal E = A + B + D[4] C	
20X5:						
1 Jan – 31 July	450 000		490 000	695 000	47 299 [1]	940 000 [4]
1 Aug – 30 Nov	940 000		160 000	1 020 000	39 667 [2]	1 100 000
1 Dec – 31 Dec	1 100 000		90 000	1 145 000	11 132 [3]	1 288 098
			740 000		98 098	
20X6:						
1 Jan – 31 Jan	1 288 098		0	1 288 098	12 523 [5]	End of constr

Notes:
1) 695 000 x 11.667% x 7/12
2) 1 020 000 x 11.667% x 4/12
3) 1 145 000 x 11.667% x 1/12
4) D is included in E only when the interest becomes payable (compounded). Therefore the cumulative expenses on 31/12/X5: 1 100 000 + 90 000 + 98 098 = 1 288 098; OR 450 000 + 740 000 + 98 098 = 1 288 098
5) 1 288 098 x 11.667% x 1/12 = 12 523

Solution 23.4 continued …

Yoodle Limited
Statement of comprehensive income (Extracts)
For the year ended 31 December 20X6

	Note	20X6 C	20X5 C
Profit before finance charges		xxx	xxx
Finance charges	35.	(127 47	(41 90
Profit before tax	36.	xxx	xxx

Yoodle Limited
Statement of financial position (Extracts)
As at the year ended 31 December 20X6

		20X6	20X5
Non-current assets	Note	C	C
Property, plant and equipment	2.	xxx	xxx

Yoodle Limited
Notes to the financial statements
For the year ended 31 December 20X6

1. Accounting Policies
1.1 Borrowing costs
Borrowing costs are recognised as an expense in the period in which they are incurred, except to the extent to which they meet the criteria for capitalisation, in which case they are capitalised.

		20X6 C	20X5 C
2. Property, plant and equipment (extracts)			
Property, plant and equipment comprises:			
• Buildings		1 18	1 28
• Other classes	*Given*	xxx	xxx
		xxx	xxx
Buildings:			
Net carrying amount: 1/1		1 28	450 00
Gross carrying amount: 1/1		1 28	450 00
Accumulated depreciation & impairment losses: 1/1		0	0
Construction costs capitalised	*Given*	0	740 00
Borrowing costs capitalised	*Per calculations/ journals above*	12 52	98 09
Depreciation	*See journals*	(119 22	0
Net carrying amount: 31/12		1 18	1 28
Gross carrying amount: 31/12		1 30	1 28
Accumulated depreciation & impairment losses: 31/12		(119 22	0
35. Finance charges			
Interest expensed		127 47	41 90
Total interest incurred		140 00	140 00
Less capitalised		(12 52	(98 09
36. Profit before tax (extracts)			
Profit before tax is stated after taking the following separately disclosable items into account:			
• Depreciation	See journals	119 22	0

Solution 23.4 continued …

W1.2B Alternative: Interest to be capitalised (using average expenditures)

Capitalisation rate x average expenditure:		**C**
Jan – July 20X5	*{450 000 + (70 000 x 7 months) / 2} x 11.667% x 7 / 12 months*	47 299
Aug – Nov 20X5	*{940 000 + (40 000 x 4 months) / 2 } x 11.667% x 4 / 12*	39 667
December 20X5	*{1 100 000 + (90 000 x 1) / 2 } x 11.667% x 1/ 12*	11 132
Total to be capitalised in 20X5		98 098
January 20X6	*{1 288 098 + 0/2} x 11.667% x 1/ 12*	12 523
Total to be capitalised in 20X6		12 523

Notes:
1) 1 190 000 + 98 098 (interest payable at 31/12/20X5) = 1 288 098 total expenses to 31/12/20X5

W1.2C Alternative: Interest to be capitalised (using balances)

20X5 Cumulative expenditure		**C**
1 January 20X5	Opening balance	450 000
January – July	*70 000 x 7 months*	490 000
31 July 20X5	Closing balance	940 000
August - November	*40 000 x 4 months*	160 000
30 November 20X5	Closing balance	1 100 000
December	*90 000 x 1 month*	90 000
31 December 20X5	Closing balance	1 190 000
31 December	Annual interest payable/ compounded	98 098
1 January 20X6	Opening balance	1 288 098

Capitalisation rate x average expenditure:

		C
Jan – July 20X5	*(450 000 + 940 000) / 2 x 11.667% x 7 / 12 m*	47 299
Aug – Nov 20X5	*(940 000 + 1 100 000) / 2 x11.667% x 4 / 12 m*	39 667
December 20X5	*(1 100 000 + 1 190 000) / 2 x 11.667% x 1 / 12 m*	11 132
Total to be capitalised in 20X5	*40 000 x 4 months*	98 098

20X6 Cumulative expenditure

		C
31 December 20X5	*Closing balance*	1 190 000
31 December	*Annual interest payable/ compounded*	98 098
1 January 20X6	*Opening balance*	1 288 098
31 January 20X6	*No payments*	0
1 January 20X6	*Opening balance*	1 288 098

Capitalisation rate x average expenditure:

		C
January 20X6	*(1 288 098 + 1 288 098 [(1)])/2 x 11.67% x 1/ 12m*	12 523
Total to be capitalised in 20X6		12 523

Solution 23.4 continued …

W1.2D Alternative: Interest to be capitalised

The above calculation can be done the long way around, if preferred (obviously this is not recommended due to time constraints in tests/ exams, but if you are battling to understand the previous calculations, it may help to cast your eyes over the following full-length calculation):

Interest on expenses incurred during 20X5 (evenly during each month)

	Balance (A)	Expense (B)	Balance (C)	Balance (D)	Interest %	Months	Capit
20X5							
January	450 000	70 000	520 000	485 000	11.67%	1	
February	520 000	70 000	590 000	555 000	11.67%	1	
March	590 000	70 000	660 000	625 000	11.67%	1	
April	660 000	70 000	730 000	695 000	11.67%	1	
May	730 000	70 000	800 000	765 000	11.67%	1	
June	800 000	70 000	870 000	835 000	11.67%	1	
July	870 000	70 000	940 000	905 000	11.67%	1	
August	940 000	40 000	980 000	960 000	11.67%	1	
September	980 000	40 000	1 020 000	1 000 000	11.67%	1	
October	1 020 000	40 000	1 060 000	1 040 000	11.67%	1	
November	1 060 000	40 000	1 100 000	1 080 000	11.67%	1	
December	1 100 000	90 000	1 190 000	1 145 000	11.67%	1	
		740 000					
20X6							
January	1 288 098 (1)	0	1 288 098	1 288 098	11.67%	1	
		0					

Balance (A): first day of the month
Expense (B): incurred during the month
Balance (C): last day of the month
Balance (D): average balance = (A + C) / 2
Capitalise: interest expense that may be capitalised: Balance (A) x interest rate x 1 / 12
Capitalisation rate (weighted average interest rate): see calculation above

Calculations:
1) 1 190 000 + 98 098 = 1 288 098

Solution 23.5 Specific loan

a) Borrowing costs to be capitalised

W1 Interest incurred:

2 000 000 x 14% x 1 year
= 280 000

W2 Interest earned:

(1 400 000 x 10% x 6 / 12) + (200 000 x 10% x 2 / 12)
= 73 333

You may find it easier to understand the calculation of the interest earned by looking at the following tabular calculation:

From	Total borrowings	Used	Available for investment	Interest on investment	
01-Jan	2 000 000	600 000	1 400 000	70 000	*1 400 000 x 10% x 6/12*
01-Jul		1 200 000	200 000	3 333	*200 000 x 10% x 2/12*
01-Sep		200 000	0	0	
				73 333	

W3 Interest to be capitalised:

Interest incurred during construction	*280 000*
Less investment income during construction	*(73 333)*
	206 667

Please note: capitalisation of borrowing costs does not cease during a temporary delay in construction.

b) Borrowing costs to be capitalised when there is an extended delay in construction

Borrowing costs may only be capitalised when all three of the following criteria are met:
- expenditure is being incurred;
- activities to bring the asset to it's intended use have begun; and
- interest is being incurred.

Since construction has not yet started (the activities have not yet begun), none of the interest incurred is eligible for capitalisation (i.e. the interest incurred must be expensed).

Solution 23.6 Specific borrowings

	Debit	Credit
1 January 20X5		
Bank	5 000 000	
Debentures (liability)		5 000 000
Issue of debentures		
31 December 20X5		
Finance cost (expense)	881 595	
Bank		600 000
Debentures (liability)		281 595
Interest on debentures expensed (1 000 000 x C5 x 17.6319%) or W1		
Payment of debenture interest (1 000 000 x C5 x 12%) or W1		
Increase in debenture liability (balancing or W1)		
Bank	250 000	
Interest income		250 000
Interest earned on surplus funds: given		
Head office building: cost	578 962	
Finance cost (expense)		578 962
Capitalisation of specific debenture interest (W2)		
Depreciation	18 991	
Head office building: accumulated depreciation		18 991
Depreciation of the building for the month of December (W3)		

Workings:

W1: Effective interest table for debentures

Year	O/bal	Interest at 17.6319%	Payments	C/bal
20X5	5 000 000	881 595	(600 000)	5 281 595
20X6	5 281 595	931 246	(600 000)	5 612 841
20X7	5 612 841	989 650	(600 000)	6 002 491
20X8	6 002 491	1 058 353	(600 000)	6 460 844
		1 139 170		
20X9	6 460 844	-14 rounding	(600 000)	7 000 000
			(7 000 000)	0
		5 000 000	(10 000 000)	

W2: Interest to be capitalised

Interest expense during construction to 30 November	*881 595 x 11 / 12 **	808 129
Less investment income during construction	*250 000 x 11 / 12 **	(229 167)
		578 962

** Construction complete on 30 November, therefore 11 months only*

W3: Depreciation

Cost	*Construction costs: 2 700 000 + Borrowing costs: 578 962*	3 278 962
Residual value	*Given*	(1 000 000)
Depreciable amount		2 278 962
Depreciation	*2 278 962 / 10 x 1/12*	18 991

Solution 23.7

a) Borrowing costs on a qualifying asset

W1: Interest incurred:

Period	Calculations	Interest incurred E
1 Jan – 30 Sept	*$1 500 000 x 15% x 9 / 12 x (E6 + E4 + E7)/3**	956 250
1 Oct – 31 Dec	*$1 500 000 x 15% x 3 / 12 x E8*	450 000**
Total	*$1 500 000 x 15% x 12 / 12 x E6.25*	1 406 250

**: average exchange rate between January – 30 September 20X5*

***: interest incurred after September 20X8 may not be capitalised because construction is complete.*

W2: Surplus funds available for investment:

Details	Date	$
Borrowed	1/1/20X8	1 500 000
Used	1/1/20X8	(200 000)
Surplus	1 Jan – 31 Mar	1 300 000
Used	1/4/20X8	(300 000)
Surplus	1 Apr – 30 June	1 000 000
Used	1/7/20X8	(550 000)
Surplus	1 July – 30 Sept	450 000
Used	30/9/20X8	(350 000)
Surplus	1 Oct – 31 Dec	100 000

W3: Interest income earned

Date	Surplus *(W2)* $	Interest @ 10% $	For 3 months (x3/12) $	Exchange rate Euro: $1	Income Euro's Euro
1 Jan – 31 Mar	1 300 000	130 000	32 500	6	195 000
1 Apr – 30 June	1 000 000	100 000	25 000	4	100 000
1 July – 30 Sept	450 000	45 000	11 250	7	78 750
1 Oct – 31 Dec	100 000	10 000	2 500	8	20 000**
Total interest income earned from surplus funds			$71 250		E393 750

***: interest income earned during the period 1 October – 31 December, is not taken into consideration when calculating the interest to be capitalised.*

W4: Interest to be capitalised.

	Calculations	Euro
Interest incurred during construction	*W1: 1 Jan – 30 Sept*	956 250
Forex loss on interest incurred	*1 500 000 x 15% x 9 / 12 x 7.20 (1) – 956 250*	258 750
Investment income during construction	*W3: 195 000 + 100 000 + 78 750*	(373 750)
Forex gain on interest income	($32 500 + $25 000 + $11 250) x 7.20 – 373 750	(121 250)
		720 000

(1) spot rate on date construction ends

Note:
The foreign exchange differences on the loan balance may not be capitalised since it is only the foreign exchange differences on the interest costs that are defined as borrowing costs.

Solution 23.7 continued …

b) Journals

		Debit	Credit
1 January 20X8			
Bank account ($)	1 500 000 x 5	7 500 000	
Loan liability			7 500 000
Dollar denominated loan is raised; spot rate is E5: $1			
Building: cost	$200 000 x 5	1 000 000	
Bank account ($)			1 000 000
Progress payment (in dollars) paid out of dollar denominated call a/c			
1 April 20X8			
Building: cost	$300 000 x 5	1 500 000	
Bank account ($)			1 500 000
Progress payment (in dollars) paid out of dollar denominated call a/c			
1 July 20X8			
Building: cost	$550 000 x 5	2 750 000	
Bank account ($)			2 750 000
Progress payment (in dollars) paid out of dollar denominated call a/c			
30 September 20X8			
Building: cost	$350 000 x 5	1 750 000	
Bank account ($)			1 750 000
Progress payment (in dollars) paid out of dollar denominated call a/c			
31 December 20X8			
Interest expense	$1 500 000 x 15% x 12/12 x 6.25	1 406 250	
Interest payable			1 406 250
Interest expense on loan liability measured at average exchange rate for year: E6.25: $1			
Forex loss	$1 500 000 x 15% x 12/12 x 7 – E1 406 250	168 750	
Interest payable			168 750
Translation of interest payable to spot exchange rate at year-end: E7:$1			
Forex loss	$1 500 000 x 7 – E7 500 000	3 000 000	
Loan liability			3 000 000
Translation of loan liability to spot exchange rate at year-end: E7:$1			
Loan liability	$1 500 000 x 7	10 500 000	
Interest payable	$1 500 000 x 15% x 12/12 x 7	1 575 000	
Bank (Euro)			12 075 000
Repayment of loan and related interest at spot exchange rate on 31 Dec 20X8: E7:$1			
Interest receivable	W2 and W3	393 750	
Interest income			393 750

Solution 23.7 continued …

Interest income on surplus funds measured at the average **b)**

Journals continued …

		Debit	Credit
exchange rate per period during which a different amount was invested (E6; E4; E7 and E8 : $1)			
Interest receivable	W2 and W3: $71 250 x 7 – E393 750	105 000	
Forex gain			105 000
Translation of interest receivable to spot exchange rate at year-end: E7:$1			
		Debit	**Credit**
31 December 20X8 continued …			
Bank account ($)	W2: $100 000 x 7 – $100 000 x 5	200 000	
Forex gain			200 000
Translation of the balance in the dollar denominated call account to spot exchange rate at year-end: E7:$1			
Bank account ($)	$71 250 x 7	498 750	
Interest receivable			498 750
Receipt of interest in $ into the dollar denominated call account on 31 December *20X8* (E7: $1)			
Bank (Euro)	Bal of capital $100 000 x 7 + Interest income $71 250 x 7	1 198 750	
Bank account ($)			1 198 750
Transfer from the dollar denominated call account to Euro bank account on 31 December *20X8* (E7: $1)			
Building: cost	W4	720 000	
Interest expense			720 000
Interest expense partially capitalised to the cost of the building ito IAS23			

Please note that this is an investment property. The question did not give us sufficient information to determine whether the cost model was used (in which case it would be depreciated from 30 September 20X8) or fair value model (in which case a fair value adjustment would be processed at 31 December 20X8) was used.

c) Borrowing costs on a NON-qualifying asset

Since the shopping mall is not a qualifying asset, the borrowing costs must be expensed. The construction costs, however, will still be capitalised to the shopping mall.

The investment income earned will be included as income in the statement of comprehensive income. This must be disclosed separately from the borrowing cost expense (i.e. the interest income may not be set-off against the borrowing costs incurred).

Since Jellyvog Limited had a foreign loan, foreign exchange differences may have arisen on changes in the Euro/Dollar exchange spot rates.

Borrowing costs expensed:
(Same working as in part a) = = E1 406 250
Interest for the entire year is expensed regardless of when the shopping mall was completed.
Interest expense should be measured at average rates during the period.

Interest income:

(Same working as in part a) = E 393 750
Interest income should be measured at average rates during the period.

Foreign exchange loss on the capital portion of the liability:
$1 500 000 x (E7 – E5) = E3 000 000

Foreign exchange loss on the interest income payable:
$1 500 000 x 15% x E7 - $1 406 250 = E168 750

Foreign exchange gain on the interest income receivable:
$71 250 x E7 - $393 750 = E105 000

Solution 23.8

Comment: this example shows:

- that interest income is used to reduce the amount of borrowings that may be capitalised when the borrowing is a specific borrowing
- only interest incurred during construction can be capitalised (March – August = 50 000 x 6 / 12 = 25 000)
- only interest income from the surplus funds from the specific loan are used to reduce the amount of interest to be capitalised (i.e. 30 000 – 9 000 = 21 000 interest income on other funds is ignored/ does not reduce the amount to be capitalised)
- only interest income earned during the period of construction is used to reduce the amount to be capitalised (i.e. 9 000 / 3 months = 3 000 per month; 3 000 is earned in September after construction is complete and therefore this 3 000 is ignored/ does not reduce the amount to be capitalised; 9 000 – 3 000 = 6 000 interest income is used to reduce the amount of interest expense to be capitalised)
- the tax effects of the capitalisation of borrowing costs

a) Calculations

Interest to be capitalised:	**Calculations:**	**C**
Interest incurred during construction: March - August	*50 000 x 6/12 (March – August)*	25 000
Less investment income during construction: March - Aug	*9 000 / 3 x 2 months (July & Aug)*	(6 000)
Total to be capitalised		19 000

b) Journals

1 January 20X5		**Debit**	**Credit**
Bank	*Given*	500 000	
Loan liability			500 000
Loan raised and received on 1 January 20X5			
31 December 20X5			
Building: cost (asset)	*Given*	410 000	
Bank/ liability			410 000
Progress payments made during the year			
Finance costs (expense)	*Given*	50 000	
Bank/ liability			50 000
Interest incurred on the loan is first expensed			
Bank/ liability	*Given*	30 000	
Interest income			30 000
Interest income earned on investment of surplus loan funds			
Building: cost (asset)	*Part (a)*	19 000	
Finance costs (expense)			19 000
Portion of interest on the loan capitalised to the cost of the building			
Depreciation	*CA o/b 420 000 – CA c/b 370 000*	50 000	
Equipment: accum. depreciation			50 000
Depreciation on equipment			
Depreciation	*(410 000 + 19 000) x 10% x 4/12* [(1)]	14 300	
Building: accumulated depreciation			14 300
Depreciation on building from 1 September 20X5 (first avail for use)			
Tax expense	*W1*	7 560	
Deferred tax	*W1*		7 560
Deferred tax on building			

(1) Building was available for use from 1st September

Solution 23.8 continued …

W1. Deferred tax

Deferred tax table caused by buildings						
		CA	**TB**	**TD**	**DT**	
O/balance 20X5		0	0	0	0	
Construction		410 000	410 000			
Borrowing costs		19 000	0			
Depreciation	429 000 x 10% x 4/12	(14 300)	0		(7 560)	Cr DT; Dr TE
Wear and tear	410 000 x 5% x 1 year	0	(20 500)			
C/balance 20X5		414 700	389 500	(25 200)	(7 560)	L

** wear and tear was not apportioned for part of a year (given in the question).*

c) Disclosure

Company Name
Statement of comprehensive income (Extracts)
For the year ended 31 December 20X5

	Note	**20X5**	**20X4**
		C	**C**
Profit before finance charges		xxx	Xxx
Finance charges	35.	(31 00	Xxx
Profit before tax	36.	xxx	Xxx

Company Name
Statement of financial position (Extracts)
As at the year ended 31 December 20X5

		20X5	**20X4**
Non-current assets	Note	**C**	**C**
Property, plant and equipment	2.	784 70	420 00
Non-current liabilities			
Deferred tax	15.	7 56	0

Notes continued overleaf

Solution 23.8 continued …

Company Name
Notes to the financial statements
For the year ended 31 December 20X5

1. Accounting Policies
1.1 Borrowing costs
Borrowing costs are recognised as an expense in the period in which they are incurred, except to the extent to which they meet the criteria for capitalisation, in which case they are capitalised.

		20X5 C	20X4 C
2. Property, plant and equipment (extracts)			
Property, plant and equipment comprises:			
• Buildings		414 70	0
• Equipment	*Given*	370 00	420 00
		784 70	420 00
Buildings:			
Net carrying amount: 1/1		0	0
Gross carrying amount: 1/1		0	0
Accumulated depreciation & impairment losses: 1/1		0	0
Construction costs capitalised	*Given*	410 00	0
Borrowing costs capitalised	*Journals above*	19 00	0
Depreciation	*Journals* (NOTE 1)	(14 30	0
Net carrying amount: 31/12		414 70	0
Gross carrying amount: 31/12		429 00	0
Accumulated depreciation & impairment losses: 31/12		(14 30	0

Note 1:
Depreciation is calculated from the day on which the asset was first available for use (1 September) – not from the date on which it was actually brought into use (1 October).

15. Deferred tax asset/ (liability)			
Deferred tax is caused by temporary differences related to:			
• Property, plant and equipment		(7 56	0
		(7 56	0
33. Other income (2)			
Interest income		30 00	xxx

Note 2:
If the interest income is considered to be material, it would be included in the revenue line item on the face of the statement of comprehensive income and in the revenue note instead. IAS 18 Revenue requires that each class of significant revenue be separately disclosed. If the interest income is considered insignificant, however, the Companies Act requires that interest income be separately disclosed. In other words, interest income must be disclosed somewhere: either in the 'revenue note' or in the 'other income note'.

35. Finance charges			
Interest expensed		31 00	xxx
Total interest incurred		50 00	xxx
Less capitalised		(19 00	xxx
36. Profit before tax (extracts)			
Profit before tax is stated after taking the following separately disclosable items into account:			
• Depreciation	Equip: 420 000 – 370 000 + Buildings: 14 300	64 30	xxx

Solution 23.9 Specific loan

Comment: this example shows:

- How to calculate interest expense when part of the loan capital is repaid; and
- How to calculate interest income from surplus funds, by first calculating how much of the specific loan is surplus to requirements and when the loan balances decrease on specific days when specific payments are made sporadically (in other words, *not evenly*).
- This example does not include compound interest.

W1 Interest incurred	**Calculations:**	**C**
Loan A: Jan - Dec	*500 000 x 10% x 12/12*	50 000
Loan B: June - Dec	*400 000 x 15% x 2/12 + (400 000 – 100 000) x 15% x 5/12*	28 750
Total interest incurred		78 750

W2 Interest earned	**Dates:**	**Surplus C**	**Calculations:**	**Interest income at 6% C**
Loan A funds received	*1 January – 31 March*	500 000	*500 000 x 6% x 3/12*	7 500
Payment made	*31 March*	(300 000)		
Loan A funds available	*1 April – 31 April*	200 000	*200 000 x 6% x 1/12*	1 000
Payment made	*31 April*	(100 000)		
Loan A funds available	*1 May – 31 May*	100 000	*100 000 x 6% x 1/12*	500
Loan B funds received	*1 June*	400 000		
Loan A&B funds available	*1 June – 31 July*	500 000	*500 000 x 6% x 2/12*	5 000
Payment made	*31 July*	(220 000)		
Repayment made	*31 July*	(100 000)		
Loan A&B funds available	*1 August – 31 August*	180 000	*180 000 x 6% x 1/12*	900
Loan A&B funds available	*1 Sept – 31 December*		*180 000 x 6% x 4/12*	3 600
Total interest earned				18 500

W3 Interest to be capitalised	**Calculations:**	**C**
Interest incurred during construction:		38 750
Loan A:		
• 1 March – 31 August	*500 000 x 10% x 6/12*	25 000
Loan B:		
• 1 June – 31 July	*400 000 x 15% x 2/12*	10 000
• 1 August – 31 August	*300 000 x 15% x 1/12*	3 750
Less investment income during construction: W2: 7 500/3 x 1 + 1 000 + 500 + 5 000 + 900		(9 900)
Total interest to be capitalised		28 850

Solution 23.9 continued …

		Debit	Credit
Finance costs (expense)	*W1*	78 750	
Bank/ liability			78 750
Interest incurred on the loan first expensed			
Bank/ investment account	*W2*	18 500	
Interest income			18 500
Interest income earned on investment of surplus loan funds			
Building: cost (asset)	*W3*	28 850	
Finance costs (expense)			28 850
Portion of interest on the loan capitalised to the cost of the building			

Solution 23.10 Specific loan

Comment: this example shows:

- How to calculate interest expense when part of the loan capital is repaid; and
- How to calculate interest income from surplus funds, by first calculating how much of the specific loan is surplus to requirements when the loan balances decrease evenly (i.e. when payments are made *evenly* over a period of time).
- How to calculate interest expense and interest income assuming that the interest for the month is calculated on the opening balances and not on a daily rate.

W1. Interest incurred

	Calculations:	**C**
Loan A: Jan - Dec	*500 000 x 10% x 12/12*	50 000
Loan B: June - Dec	*400 000 x 15% x 2/12 + (400 000 – 100 000) x 15% x 5/12*	28 750
Total interest incurred		78 750

W2. Interest earned	**Dates:**	**Surplus o/bal C**	**Calculations:**	**Int income 6% C**
Loan A funds received	*1 January*	500 000	*500 000 x 6% x 1/12*	2 500
Payments/ receipts	*January (nothing)*	0		
	1 February	500 000	*500 000 x 6% x 1/12*	2 500
Payments/ receipts	*February (nothing)*	0		
Loan funds available	*1 March*	500 000	*500 000 x 6% x 1/12*	2 500
Payments	*March (evenly)*	(105 000)	*	
Loan funds available	*1 April*	395 000	*395 000 x 6% x 1/12*	1 975
Payments	*April (evenly)*	(105 000)	*	
Loan funds available	*1 May*	290 000	*290 000 x 6% x 1/12*	1 450
Payments	*May (evenly)*	(105 000)	*	
Loan funds available	*1 June*	185 000		
Loan B funds received	*1 June*	400 000		
Loan funds available	*1 June*	585 000	*585 000 x 6% x 1/12*	2 925
Payments	*June (evenly)*	(105 000)	*	
Loan funds available	*1 July*	480 000	*480 000 x 6% x 1/12*	2 400
Payments	*July (evenly)*	(105 000)	*	
Loan repayment made	*31 July*	(100 000)	*given*	
Loan A&B funds available	*1 August*	275 000	*275 000 x 6% x 1/12*	1 375
Payments	*August (evenly)*	(105 000)	*	
Loan funds available	*1 Sept*	170 000	*170 000 x 6% x 1/12*	850
Payments/ receipts	*September (nothing)*	0		
Loan funds available	*1 October*	170 000	*170 000 x 6% x 1/12*	850
Payments/ receipts	*October (nothing)*	0		
Loan funds available	*1 November*	170 000	*170 000 x 6% x 1/12*	850
Payments/ receipts	*November (nothing)*	0		
Loan funds available	*1 December*	170 000	*170 000 x 6% x 1/12*	850
Payments/ receipts	*December (nothing)*	0		
Loan funds available	*31 December*	170 000		21 025
Total interest earned				

*: 630 000 / 6 months (1 March – 31 August)

Solution 23.10 continued …

Alternative W2. Interest income – the much shorter calculation

Dates	Calculations	Interest income C
1 January – 28 Feb	*(Jan o/b: 500 000 + Feb o/b: 500 000) / 2 x 6% x 2/12*	5 000
1 March – 31 May	*(March o/b: 500 000 + May o/b: 500 000 – 210 000 [NOTE 1]) / 2 x 6% x 3/12*	5 925
1 June – 31 July	*(June o/b: 290 000+ 400 000 -105 000 + July o/b: 585 000 – 105 000) / 2 x 6% x 2/12*	5 325
1 August – 31 August	*(Aug o/b: 480 000 – 105 000 – 100 000) x 6% x 1/12*	1 375
1 Sept – 31 December	*(Sept o/b: 275 000 – 105 000 + Dec o/b: 170 000) / 2 x 6% x 4/12*	3 400
		21 025

Note:
1) 630 000 / 6 x 2 (March and April)

W3. Interest to be capitalised

	Calculations:	**C**
Interest incurred during construction:		
		38 750
Loan A: Jan - Dec		
• 1 March – 31 August	*500 000 x 10% x 6/12*	25 000
Loan B: June - Dec		
• 1 June – 31 July	*400 000 x 15% x 2/12*	10 000
• 1 August – 31 August	*300 000 x 15% x 1/12*	3 750
Less investment income earned during construction: per above:	*5 925 + 5 325 + 1 375 (i.e. excluding interest from 1 January – 28 February and 1 September – 31 December)*	(12 625)
Total interest to be capitalised		26 125

	Debit	Credit
Finance costs (expense)	78 750	
Bank/ liability		78 750
Interest incurred on the loan first expensed		
Bank/ liability	21 025	
Interest income		21 025
Interest income earned on investment of surplus loan funds		
Building: cost (asset)	26 125	
Finance costs (expense)		26 125
Portion of interest on the loan capitalised to the cost of the building		

Solution 23.11 General loans

a) Interest incurred for the year

Loan	Calculations		Interest incurred C
A Bank	300 000 x 15% x 12 / 12 =	(1 Jan – 31 Dec)	45 000
B Bank	200 000 x 10% x 6 / 12 =	(1 April – 30 Sept)	10 000
C Bank	100 000 x 12% x 7 / 12 =	(1 June – 31 Dec)	7 000
			62 000

b) Capitalisation rate

W1 Interest incurred during the period of construction (1 March – 30 November):

Loan	Calculations		C
A Bank	300 000 x 15% x 9 / 12 =	(1 March – 30 Nov)	33 750
B Bank	200 000 x 10% x 6 / 12 =	(1 April – 30 Sept)	10 000
C Bank	100 000 x 12% x 6 / 12 =	(1 June – 30 Nov)	6 000
			49 750

W2 Weighted average loan balances outstanding during the period of construction:

	Calculations	C
A Bank	300 000 x 9 / 12 =	225 000
B Bank	200 000 x 6 / 12 =	100 000
C Bank	100 000 x 6 / 12 =	50 000
		375 000

Weighted average interest rate:
Interest incurred during construction / Average general loans outstanding during construction
49 750 / 375 000 = 13.2667%

Part c) Interest to be capitalised

Date	Accumulated expenses: opening bal A	Expenses incurred during period B	Cumulative Expenses C = A + B Or = A + B/2 (3)	Interest capitalised D = C x % x m/12	Accumulated expenses: closing bal E = A + B + D (8)
	C	C	C	C	C
1– 31 March	0	60 000	60 000 (3)	663 (5)	60 000 (8)
1– 30 April	60 000	161 250 (1)	221 250 (3)	2 446 (6)	221 250 (8)
1 May – 30 Nov	221 250	288 750 (2)	386 250 (3) (4)	29 892 (7)	386 250 (8)
				33 001	

Notes:
1) 120 000 (purchase of material) + 330 000 / 8 (labour for April) = 161 250
2) 330 000 – 41 250 (April) = 288 750
3) if the expenses are incurred during the period, then calculate the average expenses during the period (i.e. B/2); if incurred at the beginning of the month, then just add B
4) 221 250 + 41 250 (pd 1 May) + (288 750 – 41 250 May) / 2 = 386 250
5) 60 000 x 13.2667% x 1/12 = 663
6) 221 250 x 13.2667% x 1/12 = 2 446
7) 386 250 x 13.2667% x 7/12 = 29 892
8) Interest is only added when the interest is compounded by/ payable to the bank.

Solution 23.11 continued …

Part c) Interest to be capitalised continued …

Dates	Calculations	Interest income C
The one 60 000 payment affects interest in:		
• 1 March – 30 November (9 months)	*60 000 x 13.2667% x 9/12*	5 970
The one 120 000 payment affects interest in:		
• 1 April – 30 November (8 months)	*120 000 x 13.2667% x 8/12*	10 613
The eight 41 250 payment affects interest in:		
• 1 April – 30 November (8 months)	*[41 250 x 1 + (41 250 x 7)/2] x 13.266% x 8/12*	16 418
		33 001

Note: interest income is ignored in this calculation because the loans were general loans.

Part d) Journals

		Debit	Credit
Finance costs (expense)	*Part (a)*	62 000	
Bank/ liability			62 000
Interest incurred on the loan first expensed			
Bank/ liability	*Given*	30 000	
Interest income			30 000
Interest income earned on investment of surplus loan funds			
Building: cost (asset)	*Part (b) and (c)*	33 001	
Finance costs (expense)			33 001
Portion of interest on the loan capitalised to the cost of the building			

Solution 23.11 continued…

Part e) Disclosure

Yipdeedoo Limited
Notes to the financial statements
For the year ended 31 December 20X1

1. Accounting Policies
1.1 Borrowing costs
Borrowing costs are recognised as an expense in the period in which they are incurred, except to the extent to which they meet the criteria for capitalisation, in which case they are capitalised.

		20X1 C
2. Property, plant and equipment (extracts)		
Property, plant and equipment comprises:		
• Buildings		539 309
• Other classes	*Given*	xxx
		xxx
Buildings:		
Net carrying amount: 1/1		0
Gross carrying amount: 1/1		0
Accumulated depreciation & impairment losses: 1/1		0
Construction costs capitalised	*60 000 + 120 000 + 330 000*	510 000
Borrowing costs capitalised	*Per calculations/ journals above*	33 001
Depreciation	*(510 000 + 33 001 – 100 000) x 10% x 1/12* (1)	(3 692)
Net carrying amount: 31/12		539 309
Gross carrying amount: 31/12	*510 000 + 33 001*	543 001
Accumulated depr & imp losses: 31/12		(3 692)

Borrowing costs were capitalised using a capitalisation rate of 13.2667% (2)

Notes:
1) *Depreciation is calculated from the day on which the asset was first available for use (1 December) – not from the date on which it was actually brought into use (1 January 20X2).*
2) *IAS 23 requires that, where interest on general borrowings is capitalised, the capitalisation rate be disclosed. This could be disclosed in the accounting policy note on borrowing costs or in the note to the finance costs instead if preferred.*

33. Other income (3)	
Interest income	30 000

Note :
3) *If the interest income is considered to be material, it would be included in the revenue line item on the face of the statement of comprehensive income and presented separately in the revenue note instead. IAS 18 Revenue requires that each class of significant revenue be separately disclosed.*

35. Finance charges		
Interest expensed		28 999
Total interest incurred	Part (a)	62 000
Less capitalised	Part (b) and (c)	(33 001)

36. Profit before tax (extracts)		
Profit before tax is stated after taking the following separately disclosable items into account:		
• Depreciation	Per note above	3 692

Solution 23.12 Specific loans and general loans

Journals

		Debit	Credit
31 December 20X5			
Interest expense	*W1*	37 656 250	
Bank/ liability			37 656 250
Interest incurred			
Bank/ liability	*W2 (calculation 4)*	123 000	
Interest income			123 000
Interest earned on the investment of surplus funds from Bank of Oz			
Head office building: cost	*W2*	20 654 159	
Interest expense			20 654 159
Capitalisation of interest (W2)			

W1 Interest incurred

Period	Calculations	Opening balance C	Interest expense C	Closing balance C
Overdraft:	Given	fluctuating	24 000 000	fluctuating
Loan with Bank of Oz				
• 1 July – 30 September	250 000 000 x 10% x 3 / 12	250 000 000	6 250 000	256 250 000
• 1 October – 31 December	256 250 000 x 10% x 3 / 12	256 250 000	6 406 250	262 656 250
Loan with Bank of Wizardry				
• 1 October – 31 December	50 000 000 x 8% x 3 / 12	50 000 000	1 000 000	51 000 000
			37 656 250	

W2 Interest to be capitalised

Date	Accumulated expenses: opening bal A = E [1] C	Expenses incurred during period B C	Cumulative Expenses C = A + B Or A + B/2 C	Interest to be capitalised D = C x % x m/12 C	Accumulated expenses: closing bal E = A + B + D[1] C
2 January	0	100 000 000	100 000 000	4 000 000 [2]	104 000 000
1 April	104 000 000	50 000 000	154 000 000	6 160 000 [3]	160 160 000
1 July	160 160 000	80 000 000	240 160 000	6 127 000 [4]	246 287 000
1 October	246 287 000	200 000 000	446 287 000	4 367 159 [5]	459 388 480
				20 654 159	

Solution 23.12 continued …

Calculations:

1) The accumulated closing balance includes interest (column C) if and when the interest is capitalised. In this example, the interest was compounded every quarter and therefore the closing balance *includes* the interest at the end of every quarter.

2) 100 000 000 x 16% x 3/12 = 4 000 000 (no specific loans were available, therefore: expenditure x CR)

3) 154 000 000 x 16% x 3/12 = 6 160 000 (no specific loans were available, therefore: expenditure x CR)

4) 240 160 000 needed (i.e. to clear the overdraft balance of 160 160 000 and pay the 80 000 000 in July):

*Specific borrowings:**			
Loan (10%)	250 000 000*	250 000 000* x 10% x 3/12	6 250 000
Less interest income	(9 840 000)	Surplus: 9 840 000 x 5% x 3 / 12	(123 000)
	240 160 000		6 127 000

5) 446 287 000 NOTE 3

Specific			
Loan (8%)	50 000 000	50 000 000 x 8% x 1/12 NOTE 1	333 333
Loan (10%)	250 000 000	250 000 000 x 10% x 1/12 NOTE 1	2 083 333
Less interest income	0	Surplus is zero NOTE 2	(0)
General			
Overdraft (16%)	146 287 000*	146 287 000 x 16% (6) x 1/12 NOTE 4	1 950 493
	446 287 000		4 367 159

Notes:

1) All criteria for capitalisation were met in October, but not in November or December because construction was completed by 31 October. Therefore only interest for 1 out of the 3 months (October) may be capitalised.

2) There was no surplus – all specific borrowings were utilized

3) *Imagine*!
If the costs from 1 October had been *greater* than the specific and general borrowings available (i.e. the borrowings had been completely exhausted), it would have meant that the company must have been using other cash funds available to it to pay the extra costs. E.g. if the cumulative costs as at 1 October were 480 000 000 (and not 446 287 000), then the following would have been the calculation of the interest to be capitalised:

Loan (10%)	250 000 000	250 000 000 x 10% x 1/12	2 083 333
Loan (8%)	50 000 000	50 000 000 x 8% x 1/12	333 333
Overdraft (16%)	160 000 000	160 000 000 x 16% x 1/12	2 133 334
Other cash funds	20 000 000	No interest were surplus cash is used	
	480 000 000		4 550 000

* It is assumed when both general and specific borrowings are available to the construction project that the specific borrowings would be used first. Any further borrowings required (where applicable) would therefore come from the general (and often more expensive) borrowings.

6) The capitalisation rate used for the general borrowings was easy (there was only one general borrowing: the overdraft, and both the interest expense and the weighted average balance was provided to you):

$$\frac{\text{Interest expense on the general borrowings}}{\text{WA loan balance of the general borrowings}} = \frac{24\,000\,000}{150\,000\,000} = 16\%$$